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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Martiny Jr. :
: Art Unit: 2834
Serial No.: 09/615,425 :
: Examiner: Addison, Karen B.
Filed: July 13, 2000 :
:
For: BEARING CURRENT :
REDUCTION ASSEMBLY :

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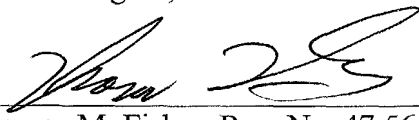
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- Amendment Transmittal form (3 pgs.), in duplicate
- Request for Reconsideration in response to Office Action dated July 31, 2002 (10 pgs.)
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Applicant: Martiny Jr.

Serial No.: 09/615,425

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Art Unit: 2834

Examiner: Addison, Karen B.

REQUEST FOR RECONSIDERATION

Hon. Commissioner for Patents
Washington, D.C. 20231

In response to the Office Action dated July 31, 2002, Applicant respectfully requests consideration of the following remarks.

Claims 1-12 are now pending in this application. Claims 1-12 stand rejected. Claims 13-15 have been withdrawn.

In accordance with 37 C.F.R. 1.136(a), a two month extension of time is submitted herewith to extend the due date of the response to the Office Action dated July 31, 2002, for the above-identified patent application from October 31, 2002, through and including December 31, 2002. In accordance with 37 C.F.R. 1.17(a)(2), authorization to charge a deposit account in the amount of \$400 to cover this extension of time request also is submitted herewith.

The rejection of Claims 1-6 and 8-12 under 35 U.S.C. § 103(a) as being unpatentable over Barahia et al. ("Barahia") in view of Newberg is respectfully traversed.

Barahia describes an auxiliary bearing assembly comprising a rotor shaft (4), a housing (5), and an auxiliary bearing shaft (3). The housing is substantially radially aligned with the rotor shaft and the auxiliary bearing shaft. The auxiliary bearing assembly is in

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electrical and mechanical contact with the auxiliary bearing shaft such that the rotor shaft and the auxiliary shaft rotate together by means including male stubs/female receptacles but also other connecting means to include threads, splines, and/or knurling or the sub and receptacle (Col. 3, lines 7-21). Furthermore, Barahia describes the auxiliary bearing assembly as a low resistance path from the rotor shaft through the auxiliary bearing shaft to ground (Col. 3, lines 62-64). Accordingly, because the rotor shaft and the auxiliary bearing assembly are mechanically attached and form a low resistance path, Applicant respectfully submits that the auxiliary bearing assembly is not a charge concentrator. Applicant respectfully traverses the assertion in the Office Action that the "auxiliary bearing assembly of fig. 1 does show a charge concentrator (3), Whereby an electrical charge is dissipated through the smallest gap". (Office Action page 3 last line to page 4 second line.) Please see column 3 line 60 to column 4 line 2 where Barahia describes that "Although the embodiment of FIG. 1 is particularly suited for retrofitting to an existing motor, the auxiliary bearing assembly of this invention can be incorporated into a motor as originally manufactured. For example, the motor housing 5 can be fabricated to include a bracket 8 for an auxiliary bearing 1 and/or the motor shaft 4 can be extended through opening 9 in the motor housing 5 so that it can rest directly within bore 10 of the auxiliary bearing 1. In this latter configuration, auxiliary bearing shaft 3 will not be needed. It will be apparent to those skilled in the art that the auxiliary bearing assembly of this invention will provide a low resistance path to ground from the motor shaft 4 to auxiliary bearing shaft 3, and then through the ECG inside auxiliary bearing 1 to bearing race wall 11, and finally through bearing bracket 8 and motor housing 5 to ground. Consequently, any voltage that may be generated on motor shaft 4 will be quickly dissipated so that damaging currents will not pass through the standard motor shaft bearings". Because there exists "a low resistance path to ground from the motor shaft 4 to auxiliary bearing shaft 3, and then through the ECG inside auxiliary bearing 1 to bearing race wall 11, and finally through bearing bracket 8 and motor housing 5 to ground", auxiliary bearing shaft 3 is not a charge concentrator.

Newberg describes a bearing retainer structure comprising an endshield (2), a bearing support means in the form of an annular support lip (12), and an annular space (19). More specifically, the annular space is provided to receive an expansible-compressible fastening

device (21) which retains the bearing (14) in position to enhance the resistance to torsional, axial, and radial thrusts (Col. 3, lines 44-46).

Applicant respectfully submits that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Neither Barahia nor Newberg, considered alone or in combination, describe or suggest the claimed combination. Furthermore, in contrast to the assertion within the Office Action, Applicant respectfully submits that it would not be obvious to one skilled in the art to combine Barahia with Newberg, because there is no motivation to combine the references suggested in the art. Additionally, the Examiner has not pointed to any prior art that teaches or suggests to combine the disclosures, other than Applicant's own teaching. Rather, only the conclusory statement that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Barahia [et al.] bearing current reduction assembly with the teaching of Newberg bearing retainer structure to eliminate or reduce the build up of electric potentials on the shaft or in bearings of the motor" is provided as support for combining the disclosures.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicant's disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the art to deprecate the claimed invention. Further, it is

impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The present Section 103 rejection is based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Barahia is cited for its teaching of an auxiliary bearing assembly mechanically connected to a rotor shaft, and Newberg is cited for its teaching of a bearing retainer structure comprising an endshield and a bearing support means in the form of an annular support lip. There is no teaching or suggestion in the cited art for the claimed combination, and as such, the Section 103 rejection appears to be solely based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Such a combination is impermissible, and for this reason alone, Applicant requests that the Section 103 rejection of Claims 1-12 be withdrawn.

Furthermore, and to the extent understood, neither Barahia nor Newberg, considered alone or in combination, describe or suggest, the claimed combination, and as such, the presently pending claims are patentably distinguishable from the cited combination. Specifically, Claim 1 recites a bearing current reduction assembly comprising "a rotor shaft...an inner bearing cap substantially radially aligned with said rotor shaft, said inner bearing cap comprising an inner end, said inner end in close proximity to said rotor shaft...a charge concentrator disposed on at least one of said rotor shaft and said inner end, said charge concentrator positioned between said rotor shaft and said inner end."

Neither Barahia nor Newberg, considered alone or in combination, describe nor suggest a bearing current reduction assembly including a rotor shaft, an inner bearing cap substantially radially aligned with the rotor shaft and including an inner end in close proximity to the rotor shaft, and a charge concentrator disposed on at least one of the rotor shaft and the inner end, wherein the charge concentrator is positioned between the rotor shaft and the inner end. Specifically, neither Barahia nor Newberg, considered alone or in combination, describe nor suggest a bearing current reduction assembly including a charge concentrator disposed on at least one of a rotor shaft and an inner end of an inner bearing cap, wherein the charge concentrator is positioned between the rotor shaft and the inner end.

Rather, Barahia appears to teach away from the present invention. More specifically, Barahia describe an auxiliary bearing assembly wherein the auxiliary bearing assembly is mechanically connected to the rotor shaft such that it provides a low resistance path to ground. Furthermore, Applicant submits that it would not have been obvious to alter Barahia in view of Newberg to obtain the claimed invention. More specifically, as described above, Newberg teaches the use of a bearing retainer structure comprising an endshield and an annular support lip, and Barahia teach mechanically engaging and contacting the auxiliary bearing shaft to the rotor shaft to provide a low resistance path to ground and therefore the auxiliary bearing shaft is inherently not a charge concentrator. Furthermore, even if the auxiliary bearing shaft is considered a charge concentrator, and Applicant respectfully submits that the auxiliary bearing shaft is not a charge concentrator, neither Barahia nor Newberg, considered alone or in combination, describe nor suggest a charge concentrator that is positioned between a rotor shaft and an inner end of an inner bearing cap. For at least the reasons set forth above, Claim 1 is submitted to be patentable over Barahia in view of Newberg.

Claims 2-6 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 2-6 are considered in combination with the recitations of Claim 1, Applicant submits that dependent Claims 2-6 likewise are patentable over Barahia in view of Newberg.

Claim 7 recites an electric motor assembly comprising "a motor housing...a stator mounted in said housing and comprising a bore therethrough...a rotor core rotatably mounted in said housing and extending through said stator bore...a rotor shaft extending through said rotor core...at least one endshield...an inner bearing cap radially aligned with said rotor shaft, said inner bearing cap having an inner end and an outer end, said inner end in close proximity to said rotor shaft...and a charge concentrator disposed on at least one of said rotor shaft and said inner end, said charge concentrator positioned between said rotor shaft and said inner end."

Neither Barahia nor Newberg, considered alone or in combination, describe nor suggest an electric motor assembly including a motor housing, a stator mounted in the

housing and including a bore therethrough, a rotor core rotatably mounted in the housing and extending through the stator bore, a rotor shaft extending through the rotor core, at least one endshield, an inner bearing cap radially aligned with the rotor shaft and having an inner end and an outer end, wherein the inner end is in close proximity to the rotor shaft, and a charge concentrator disposed on at least one of the rotor shaft and the inner end, wherein the charge concentrator is positioned between the rotor shaft and the inner end. Specifically, neither Barahia nor Newberg, considered alone or in combination, describe nor suggest an electric motor assembly including a charge concentrator disposed on at least one of a rotor shaft and an inner end of an inner bearing cap, wherein the charge concentrator is positioned between the rotor shaft and the inner end. Rather, Barahia appears to teach away from the present invention. More specifically, Barahia describe an auxiliary bearing assembly wherein the auxiliary bearing assembly is mechanically connected to the rotor shaft such that it provides a low resistance path to ground. Furthermore, Applicant submits that it would not have been obvious to alter Barahia in view of Newberg to obtain the claimed invention. More specifically, as described above, Newberg teaches the use of a bearing retainer structure comprising an endshield and an annular support lip, and Barahia teach mechanically engaging and contacting the auxiliary bearing shaft to the rotor shaft to provide a low resistance path to ground and therefore the auxiliary bearing shaft is inherently not a charge concentrator. Furthermore, even if the auxiliary bearing shaft is considered a charge concentrator, and Applicant respectfully submits that the auxiliary bearing shaft is not a charge concentrator, neither Barahia nor Newberg, considered alone or in combination, describe nor suggest a charge concentrator that is positioned between a rotor shaft and an inner end of an inner bearing cap. For at least the reasons set forth above, Claim 7 is submitted to be patentable over Barahia in view of Newberg.

Claims 8-12 depend from independent Claim 7. When the recitations of Claims 8-12 are considered in combination with the recitations of Claim 7, Applicant submits that dependent Claims 8-12 likewise are patentable over Barahia in view of Newberg.

For the reasons set forth above, Applicant respectfully requests that the Section 103 rejection of Claims 1-12 be withdrawn.

The rejection of Claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Barahia in view of Newberg as applied to Claims 1-6 and 8-12 above, and in further in view of Fisher et al. ("Fisher") is respectfully traversed.

Barahia and Newberg are described above. Fisher describes an electric motor (10) that includes a pair of endshields (22 and 24) which are connected to a motor frame (26). The motor includes an inner rotor core (50) mounted on a shaft (14) spaced in relation to stator windings (52). A bearing unit (34) is mounted on the motor shaft to reduce the passage of contaminant into the motor compartment. disposed adjacent opposing end of the frame to define a motor compartment. A stator winding YYY auxiliary bearing assembly comprising a rotor shaft (4), a housing (5), and an auxiliary bearing shaft (3). The housing is substantially radially aligned with the rotor shaft and the auxiliary bearing shaft. The auxiliary bearing assembly is in electrical and mechanical contact with the auxiliary bearing shaft such that the rotor shaft and the auxiliary shaft rotate together by means including male stubs/female receptacles but also other connecting means to include threads, splines, and/or knurling or the sub and receptacle (Col. 3, lines 7-21). Furthermore, Barahia describes the auxiliary bearing assembly as a low resistance path from the rotor shaft through the auxiliary bearing shaft to ground (Col. 3, lines 62-64). Accordingly, because the rotor shaft and the auxiliary bearing assembly are mechanically attached and form a low resistance path, Applicant respectfully submits that the auxiliary bearing assembly is not a charge concentrator.

Applicant respectfully submits that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. None of Barahia, Newberg, or Fisher, considered alone or in combination, describe or suggest the claimed combination. Furthermore, in contrast to the assertion within the Office Action, Applicant respectfully submits that it would not be obvious to one skilled in the art to combine Barahia, Newberg, and Fisher, because there is no motivation to combine the references suggested in the art. Additionally, the Examiner has not pointed to any prior art that teaches or suggests to

combine the disclosures, other than Applicant's own teaching. Rather, only the conclusory statement that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Barahia bearing current reduction assembly with the teaching of Newberg bearing retainer and modify it with Fisher housing and stator structure for the purpose of extending the life of the motor and protecting the bearing unit" is provided as support for combining the disclosures.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicant's disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The present Section 103 rejection is based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Barahia is cited for its teaching of an auxiliary bearing assembly mechanically connected to a rotor shaft, Newberg is cited for its teaching of a bearing retainer structure comprising an endshield and a bearing support means in the form of an annular support lip, and Fisher is cited for its teaching of a YYY. There is no teaching or suggestion in the cited art for the claimed combination, and as such, the Section 103 rejection appears to be solely based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Such a combination

is impermissible, and for this reason alone, Applicant requests that the Section 103 rejection of Claim 7 be withdrawn.

Furthermore, and to the extent understood, none of Barahia, Newberg, or Fisher, considered alone or in combination, describe or suggest, the claimed combination, and as such, the presently pending claims are patentably distinguishable from the cited combination. Specifically, Claim 7 recites an electric motor assembly comprising "a motor housing...a stator mounted in said housing and comprising a bore therethrough...a rotor core rotatably mounted in said housing and extending through said stator bore...a rotor shaft extending through said rotor core...at least one endshield...an inner bearing cap radially aligned with said rotor shaft, said inner bearing cap having an inner end and an outer end, said inner end in close proximity to said rotor shaft...and a charge concentrator disposed on at least one of said rotor shaft and said inner end, said charge concentrator positioned between said rotor shaft and said inner end."

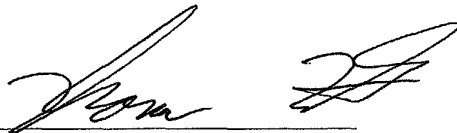
None of Barahia, Newberg, or Fisher, considered alone or in combination, describe nor suggest an electric motor assembly including a motor housing, a stator mounted in the housing and including a bore therethrough, a rotor core rotatably mounted in the housing and extending through the stator bore, a rotor shaft extending through the rotor core, at least one endshield, an inner bearing cap radially aligned with the rotor shaft and having an inner end and an outer end, wherein the inner end is in close proximity to the rotor shaft, and a charge concentrator disposed on at least one of the rotor shaft and the inner end, wherein the charge concentrator is positioned between the rotor shaft and the inner end. Specifically, none of Barahia, Newberg, or Fisher, considered alone or in combination, describe nor suggest an electric motor assembly including a charge concentrator disposed on at least one of a rotor shaft and an inner end of an inner bearing cap, wherein the charge concentrator is positioned between the rotor shaft and the inner end. Rather, Barahia appears to teach away from the present invention. More specifically, Barahia describe an auxiliary bearing assembly wherein the auxiliary bearing assembly is mechanically connected to the rotor shaft such that it provides a low resistance path to ground. Furthermore, Applicant submits that it would not have been obvious to alter Barahia in view of Newberg and Fisher to obtain the claimed

invention. More specifically, as described above, Newberg teaches the use of a bearing retainer structure comprising an endshield and an annular support lip, and Barahia teach mechanically engaging and contacting the auxiliary bearing shaft to the rotor shaft to provide a low resistance path to ground and therefore the auxiliary bearing shaft is inherently not a charge concentrator. Furthermore, even if the auxiliary bearing shaft is considered a charge concentrator, and Applicant respectfully submits that the auxiliary bearing shaft is not a charge concentrator, none of Barahia, Newberg, or Fisher, considered alone or in combination, describe nor suggest a charge concentrator that is positioned between a rotor shaft and an inner end of an inner bearing cap. For at least the reasons set forth above, Claim 7 is submitted to be patentable over Barahia in view of Newberg and Fisher.

For the reasons set forth above, Applicant respectfully requests that the Section 103 rejection of Claim 7 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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